

Vermont Department of Environmental Conservation

Watershed Management Division
Springfield Regional Office
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Springfield, VT 05156
www.watershedmanagement.vt.gov

Agency of Natural Resources

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AUTHORIZATION TO CONDUCT STREAM ALTERATION ACTIVITIES

Pursuant to Section C.2.2.5 of the VT Stream Alteration General Permit (Reporting Activities Replacement Culverts)

Project Number: **SA-05-007-2016 Andover Simmons Road Culvert**

Applicant Name: Select Board, Town of Andover, Vermont

Contact: Kevin Baker

Mailing Address: Town of Andover, 953 Weston-Andover Rd, Chester, VT 05143

Phone: (802) 875-3247

Project Location: Simmons Road over trib to Andover Branch of Williams River

Email: clerk@vermontel.net

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

1. This project authorizes the replacement of a 48" culvert with a 8' 2" x 5' 9" concrete box culvert using Type E2 stone fill in accordance with SRMPP Appendix M Stone Fill in constructing the box culvert invert.
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit.
3. The proposed activity will meet the terms and conditions of the General Permit provided:
 - a) The project will be completed and approved as shown on the attached plans dated 2/1/16, prepared by Hammond Engineering as approved by the VT ANR as attached herein.
 - b) The project will not adversely affect the public safety by increasing flood hazards.
 - c) The project will not significantly damage fish life or wildlife.
 - d) The project will not significantly damage the rights of riparian owners.
 - e) The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
 - f) The project is conducted in a manner which minimizes or avoids any discharge of sediment or other pollutants to surface waters in violation of the VT Water Quality Standards.
 - g) The ANR River Management Engineer is notified by phone or email when construction begins and when the project is complete.
 - h) In-stream working dates for all GP activities are from June 1st through October 1st; any in-stream work outside these dates will require an Individual Stream Alteration Permit authorization by the River Management Engineer.
 - i) This authorization has been posted for three days public comment. This authorization constitutes final approval.

If there are any changes in the project plan or deviation in construction from the plan, the Permittee must notify the River Management Engineer immediately.

If the project is constructed as you have described, as shown on the above referenced approved plans and according to the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

Signed this 13th day of May, 2016

Alyssa B. Schuren, Commissioner

Department of Environmental Conservation



by _____

Todd Menees, P.E., P.H., River Management Engineer

This permit expires October 1, 2016.

Streambed Stone Fill Design Guidance

Type	Velocity Range (fps)*	Embeddedness (in)
E1	$V \leq 9$	18
E2	$9 < V \leq 11$	24
E3	$11 < V \leq 13$	36
E4	$13 < V \leq 15$	48

*Maximum velocity should be based on a minimum 50-year design flow rate and calculated at the structure outlet.

Item xxx.xxx CY Streambed Stone Fill Specification

Type E1. The longest dimension of the stone shall be at least 18 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 12 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

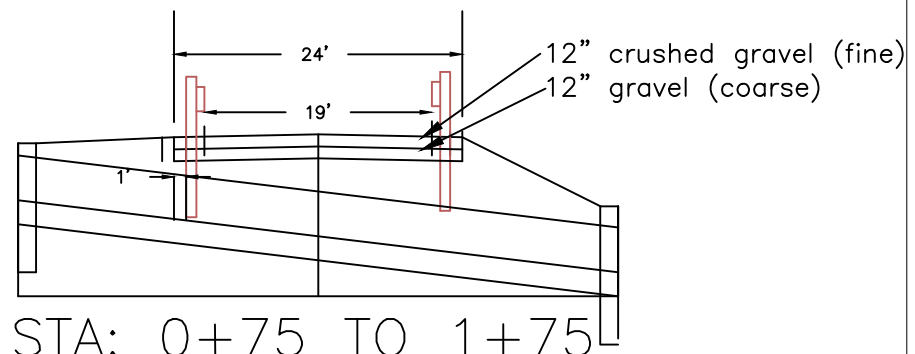
Type E2. The longest dimension of the stone shall be at least 24 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 18 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E3. The longest dimension of the stone shall be at least 36 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 24 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

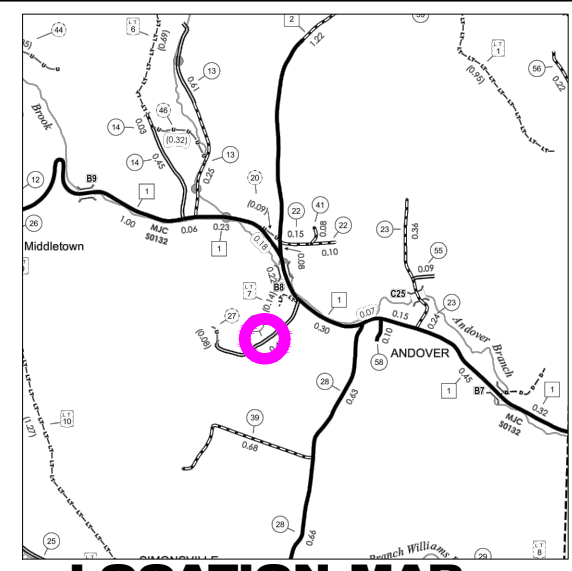
Type E4. The longest dimension of the stone shall be at least 48 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 36 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Notes

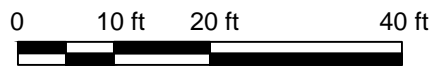
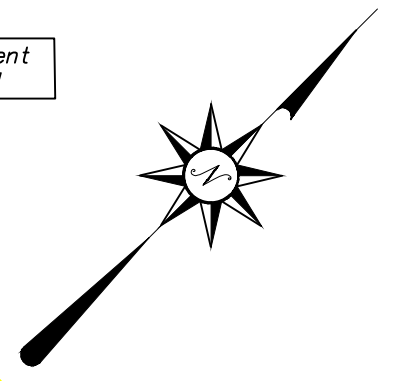
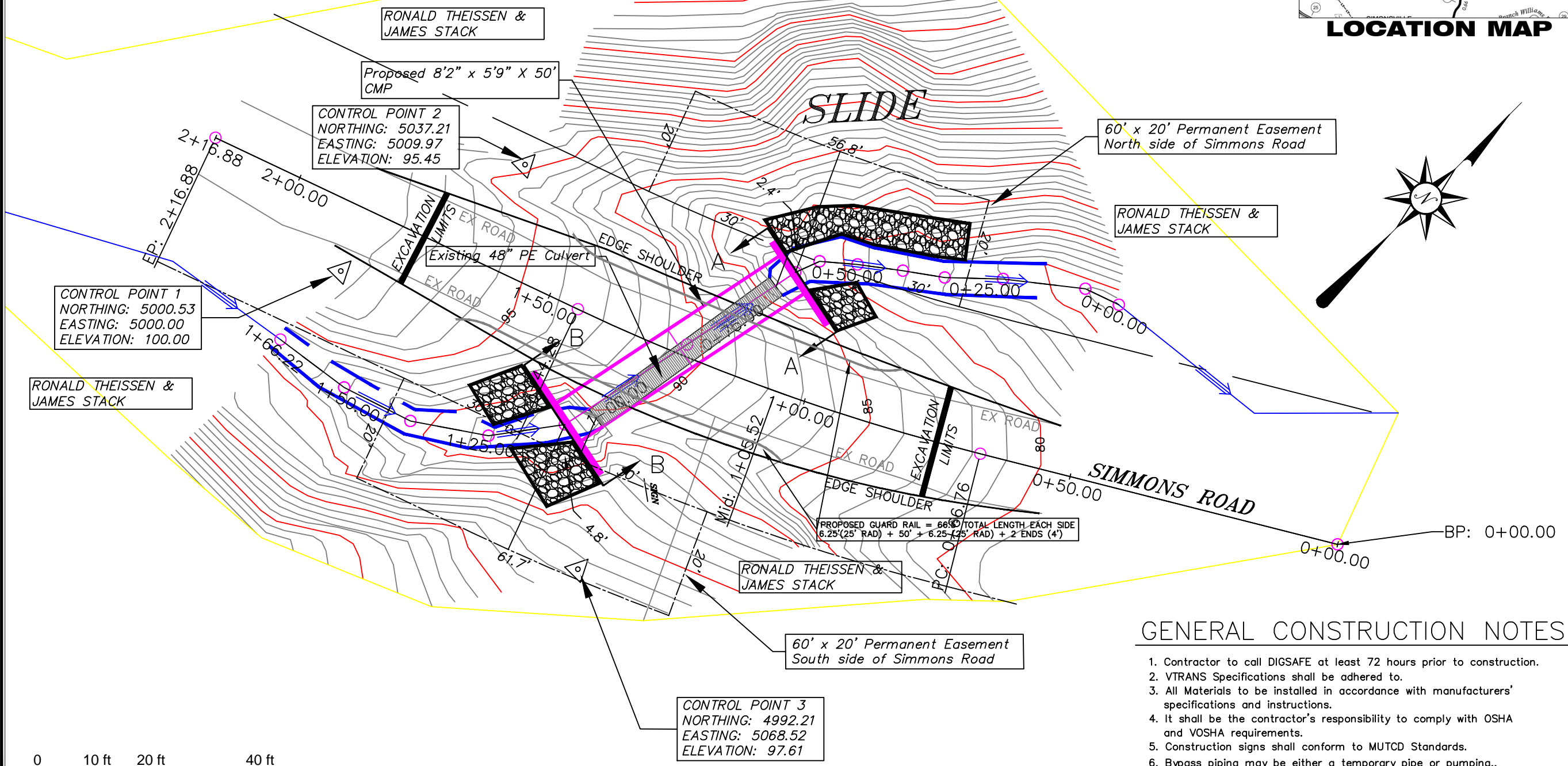
- The streambed stone fill shall be hard, blasted, angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos). Similar sized river sediment is an acceptable alternative as is a mixture of angular material and river sediment.
- Stone placed inside of a closed structure shall be placed such that the structure is not damaged.
- Care shall be taken to limit segregation of the materials.
- Add sand borrow item as needed to seal the bed and prevent subsurface flow.
- There shall be no subsurface flow upon final inspection.



STA: 0+75 TO 1+75
Typical Road Section
nts



LOCATION MAP

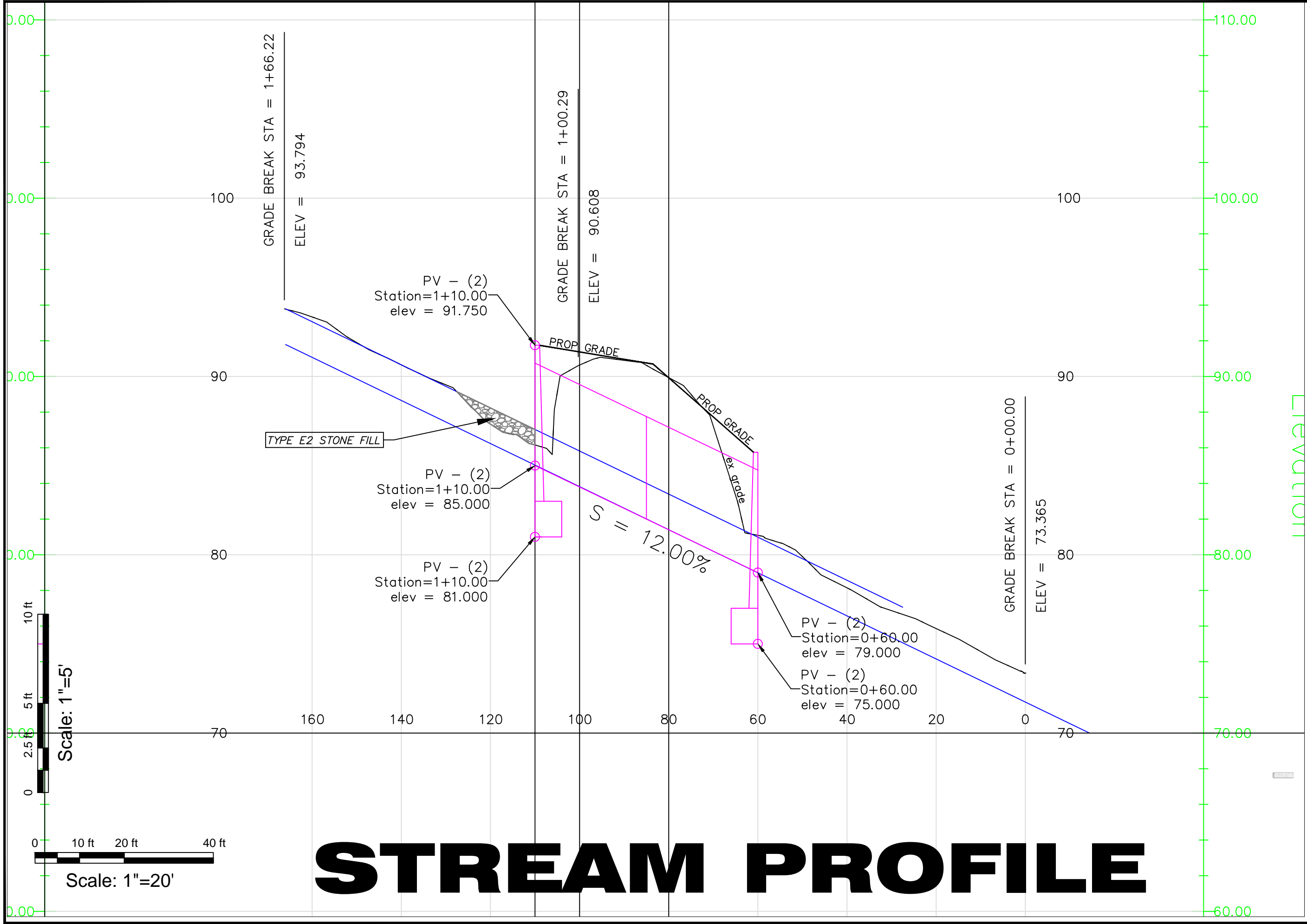


Scale: 1"=20'

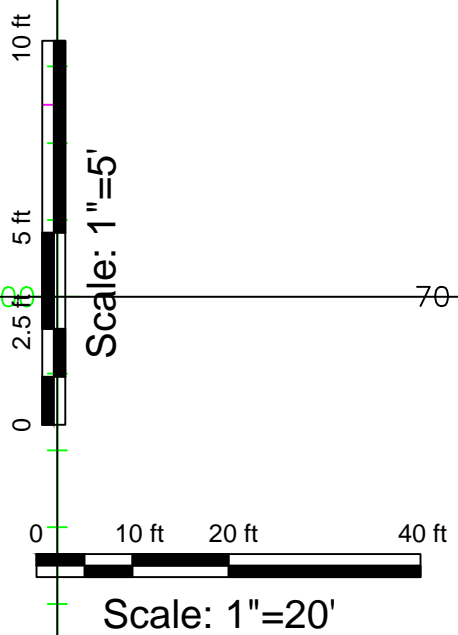
GENERAL CONSTRUCTION NOTES

1. Contractor to call DIGSAFE at least 72 hours prior to construction.
2. VTRANS Specifications shall be adhered to.
3. All Materials to be installed in accordance with manufacturers' specifications and instructions.
4. It shall be the contractor's responsibility to comply with OSHA and VOSHA requirements.
5. Construction signs shall conform to MUTCD Standards.
6. Bypass piping may be either a temporary pipe or pumping..
7. Drain pipe shall be 14 gauge Polymer coated pipe (by Lane Pipe or equal).
8. Type 3 Rip-Rap shall be installed at the inlet and outlet ends of the box at locations steeper than a 2:1 slope.

SIMMONS ROAD CULVERT Project No. FEB. 2016		Scale 1"=20'	Date 2/01/2016
		1/4	
		Date	Revision
Town of Andover, VT 953 Weston-Andover Road, Chester, VT 05143 Simmons Road CMP 8'2" x 5'9" X 50' DRAIN			
Hammond Engineering Everett T. Hammond, PE 5 Lincoln St, Springfield, VT 05156 Phone: (802) 376-0042			



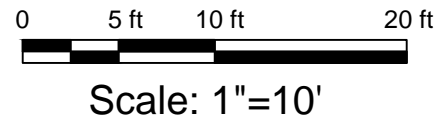
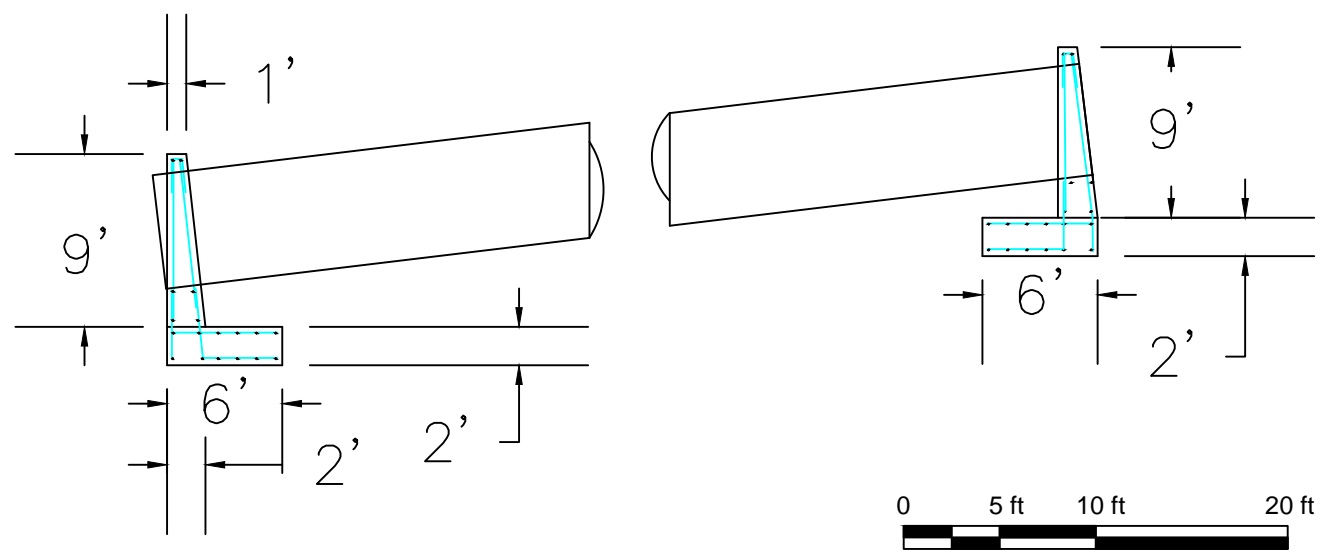
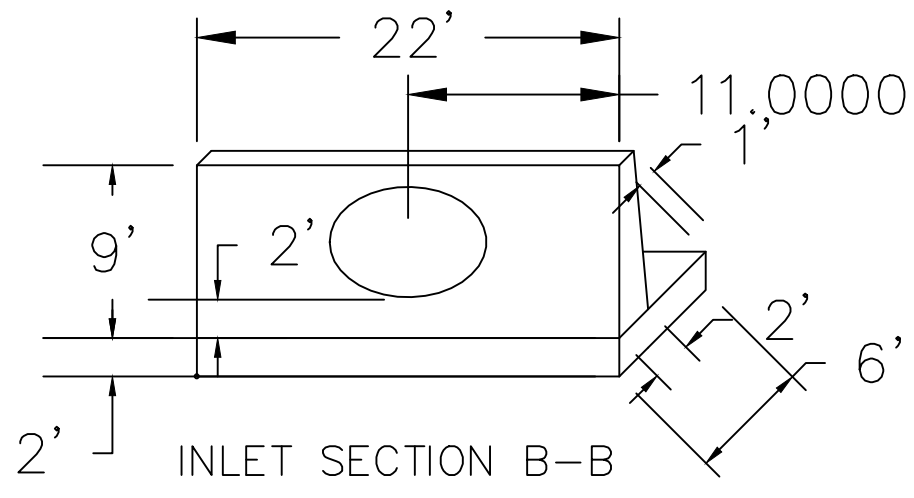
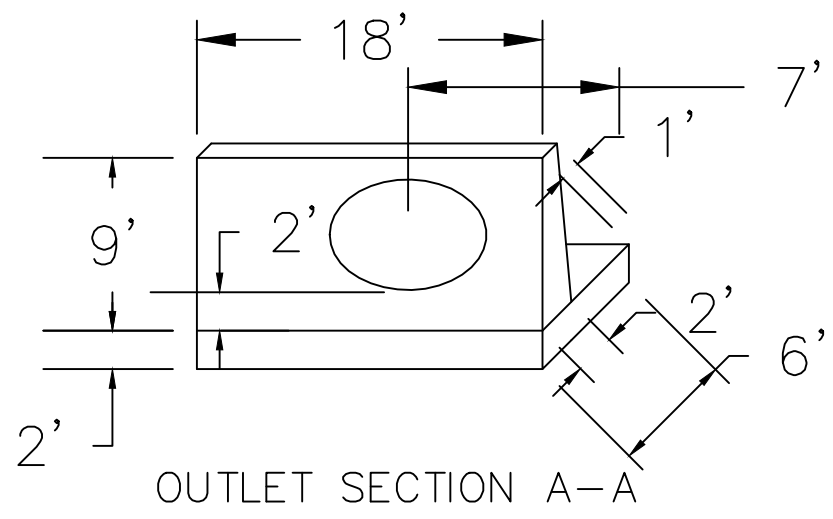
STREAM PROFILE



Town of Andover, VT
 953 Weston-Andover Road, Chester, VT 05143
Simmons Road CMP
8'2" x 5'9" CMP PROFILE

Hammond Engineering
 Everett T. Hammond, PE
 5 Lincoln St, Springfield, VT 05156
 Phone: (802) 376-0042

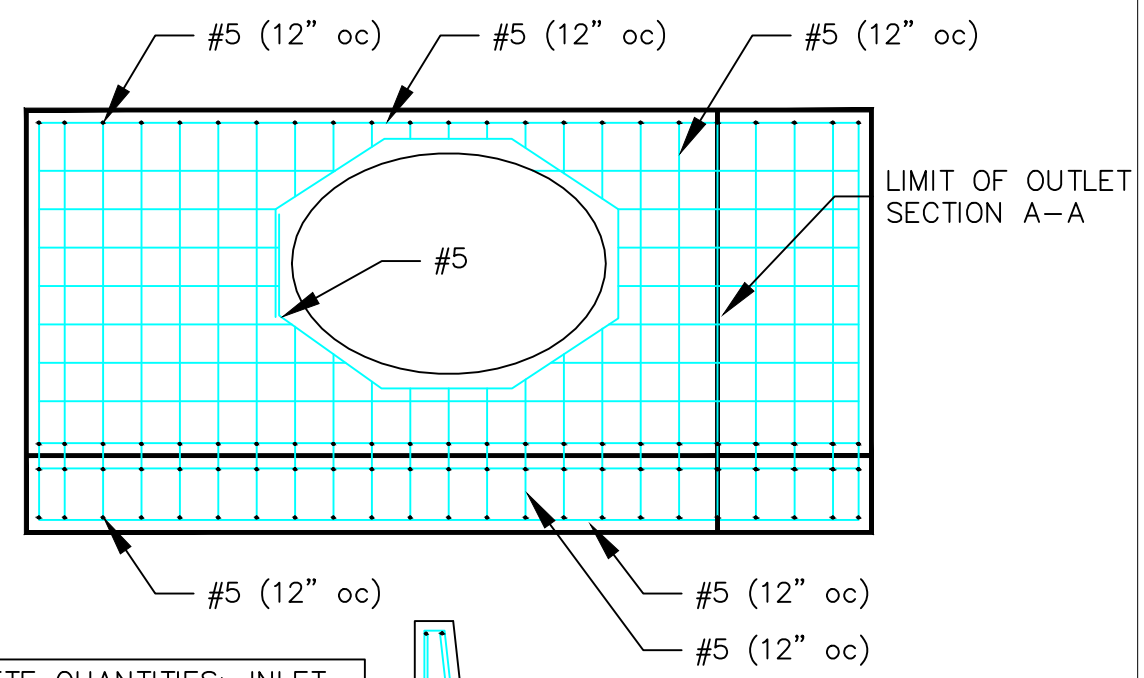
Project No. FEB. 2016	Scale 1"=20'	Date 2/01/2016
2/4		
Date	Revision	



HEADWALL DETAILS

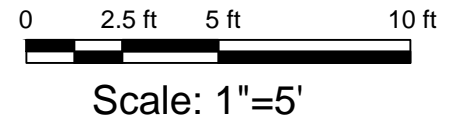
HEADWALL NOTES

1. Assumed allowable load for spread footings:
 - on soil: 4 KSF
 - on ledge: 10 KSF
2. Reinforcing steel grade: 60 ksi
3. Concrete Classification: Vermont Class A
4. Soil unit weight: 140 PSF
5. Assumed footing friction coefficient: 0.55
6. Soil friction angle: 33.67 degrees
7. All exposed edges to be chamfered 1"
8. All rebar shall have a clearance of 3" to face of concrete
9. Construction joint surface shall be rough



CONCRETE QUANTITIES: INLET
 BASE: 9.8 CY
 HEADWALL: 9.0 CY

CONCRETE QUANTITIES: OUTLET
 BASE: 8.0 CY
 HEADWALL: 7.0 CY

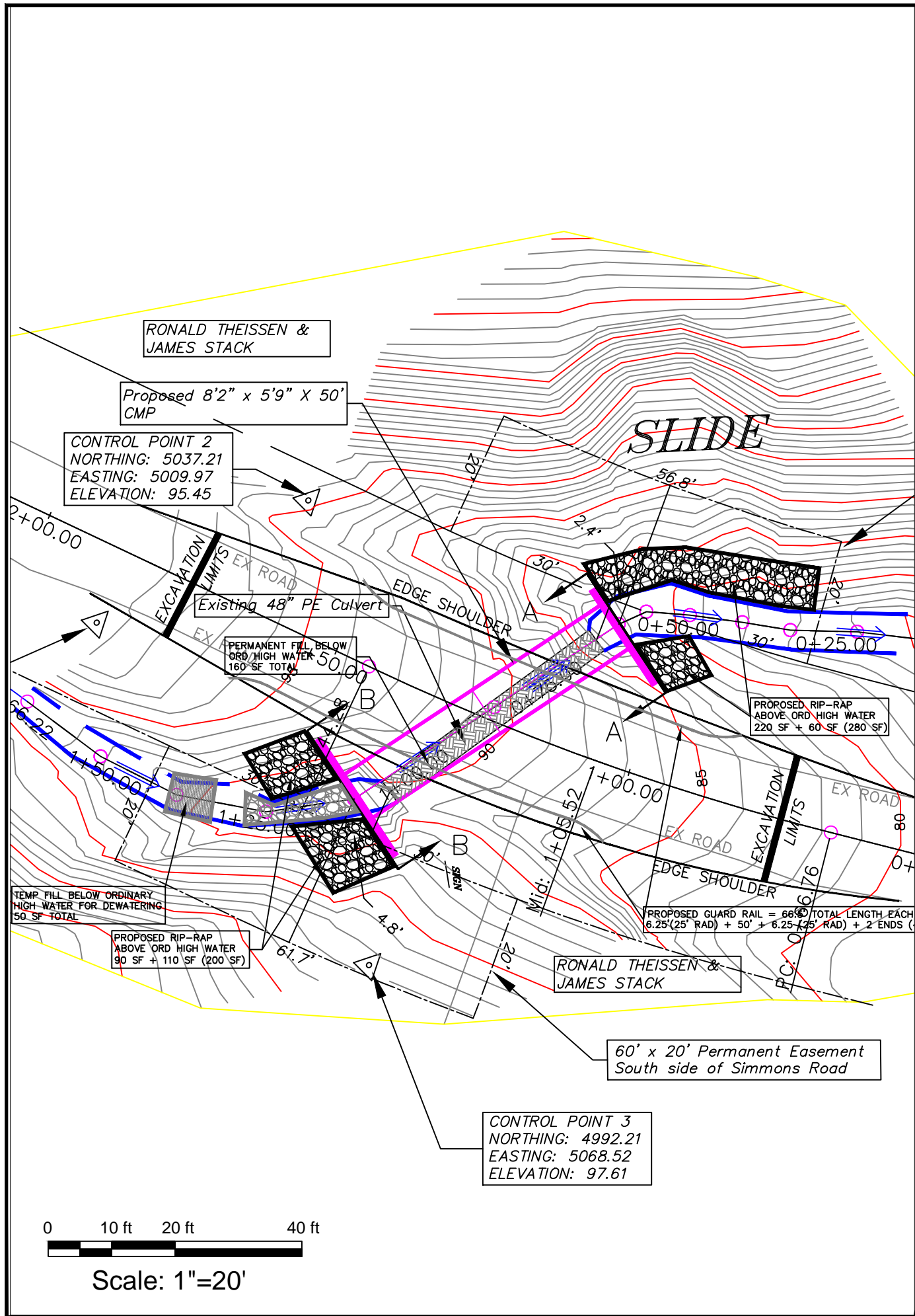


STEEL SCHEDULE

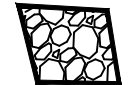

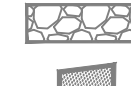



Project No. FEB_2016	Scale 1"=20'	Date 2/01/2016
3/4		
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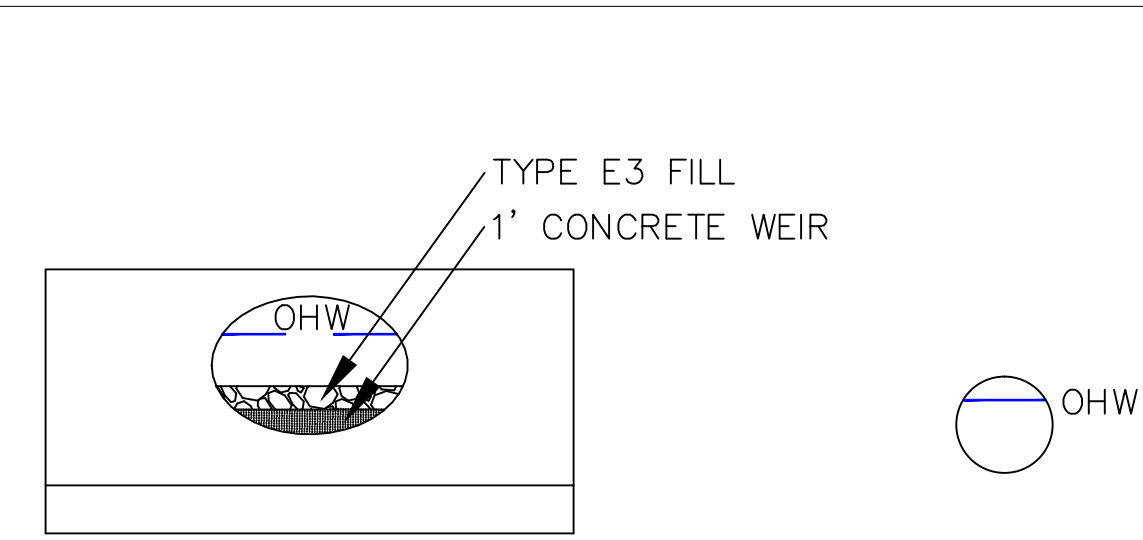
Town of Andover, VT
 953 Weston-Andover Road, Chester, VT 05143
Simmons Road CMP
HEADWALL DETAILS

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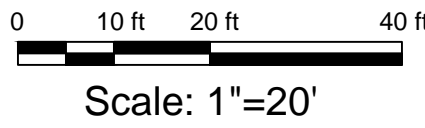


LEGEND

	PERMANENT TYPE 3 RIP RAP ABOVE OHW: 480 SF
	PERMANENT FILL BELOW OHW: 160 sf
	PERMANENT RIP RAP BELOW OHW: 60 sf
	TEMPORARY FILL BELOW OHW FOR DEWATERING: 50 SF
	ORDINARY HIGH WATER
	PROPOSED TEMPORARY BYPASS: NOT APPLICABLE



PROP 8'2" X 5'9" CMP EX 48" PE



SIMMONS ROAD CULVERT Project No. FEB. 2016	Scale 1"=20'	Date 2/01/2016
4/4		
Town of Andover, VT 953 Weston-Andover Road, Chester, VT 05143 Simmons Road CMP PERMIT PLANS		
Hammond Engineering Everett T. Hammond, PE 5 Lincoln St, Springfield, VT 05156 Phone: (802) 376-0042		